

Title (en)

METHOD AND APPARATUS FOR REDUCING LEAKAGE CURRENT IN MEMORY ARRAYS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR VERRINGERUNG VON LECKSTROM BEI EINER SPEICHERMATRIX

Title (fr)

PROCÉDÉ ET APPAREIL POUR RÉDUIRE LE COURANT DE FUITE DANS DES MATRICES MÉMOIRE

Publication

EP 2150959 B1 20160928 (EN)

Application

EP 08755718 A 20080516

Priority

- US 2008063916 W 20080516
- US 75050507 A 20070518

Abstract (en)

[origin: US2008285367A1] Techniques for reducing leakage current in memory arrays are described. A memory array has multiple rows and multiple columns of memory cells. Bit lines are coupled to the columns of memory cells, and word lines are coupled to the rows of memory cells. The bit lines have disconnected paths to a power supply and float during a sleep mode for the memory array. The bit lines may be coupled to (i) precharge circuits used to precharge the bit lines prior to each read or write operation, (ii) pass transistors used to couple the bit lines to sense amplifiers for read operations, and (iii) pull-up transistors in drivers used to drive the bit lines for write operations. The precharge circuits, pass transistors, and pull-up transistors are turned off during the sleep mode. The word lines are set to a predetermined logic level to disconnect the memory cells from the bit lines during the sleep mode.

IPC 8 full level

G11C 7/12 (2006.01); **G11C 11/4094** (2006.01)

CPC (source: EP KR US)

G11C 5/14 (2013.01 - KR); **G11C 7/12** (2013.01 - KR); **G11C 7/22** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

US 2008285367 A1 20081120; CN 101681671 A 20100324; EP 2150959 A1 20100210; EP 2150959 B1 20160928; ES 2605176 T3 20170313; HU E030867 T2 20170628; JP 2010528401 A 20100819; JP 5313239 B2 20131009; KR 101195795 B1 20121105; KR 20100022045 A 20100226; TW 200903512 A 20090116; WO 2008144526 A1 20081127

DOCDB simple family (application)

US 75050507 A 20070518; CN 200880016350 A 20080516; EP 08755718 A 20080516; ES 08755718 T 20080516; HU E08755718 A 20080516; JP 2010509477 A 20080516; KR 20097026163 A 20080516; TW 97118314 A 20080516; US 2008063916 W 20080516